

A NEW SPECIES OF THE NEOTROPICAL GENUS *SPHAERIDOPS*  
AMYOT & SERVILLE, 1843 (SPHAERIDOPINAE: REDUVIIDAE)

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*Abstract.*—*Sphaeridops eulus* n. sp. is described from specimens from Paraguay and Brazil. It is compared with its congener and illustrated with line drawings and SEM photos. The possible use of the dorsal surface of the hypopygium as a new taxonomic tool is discussed.

*Key Words:* Reduviidae, Sphaeridopinae, *Sphaeridops eulus* n. sp., new genitalic characters, Brazil, Paraguay

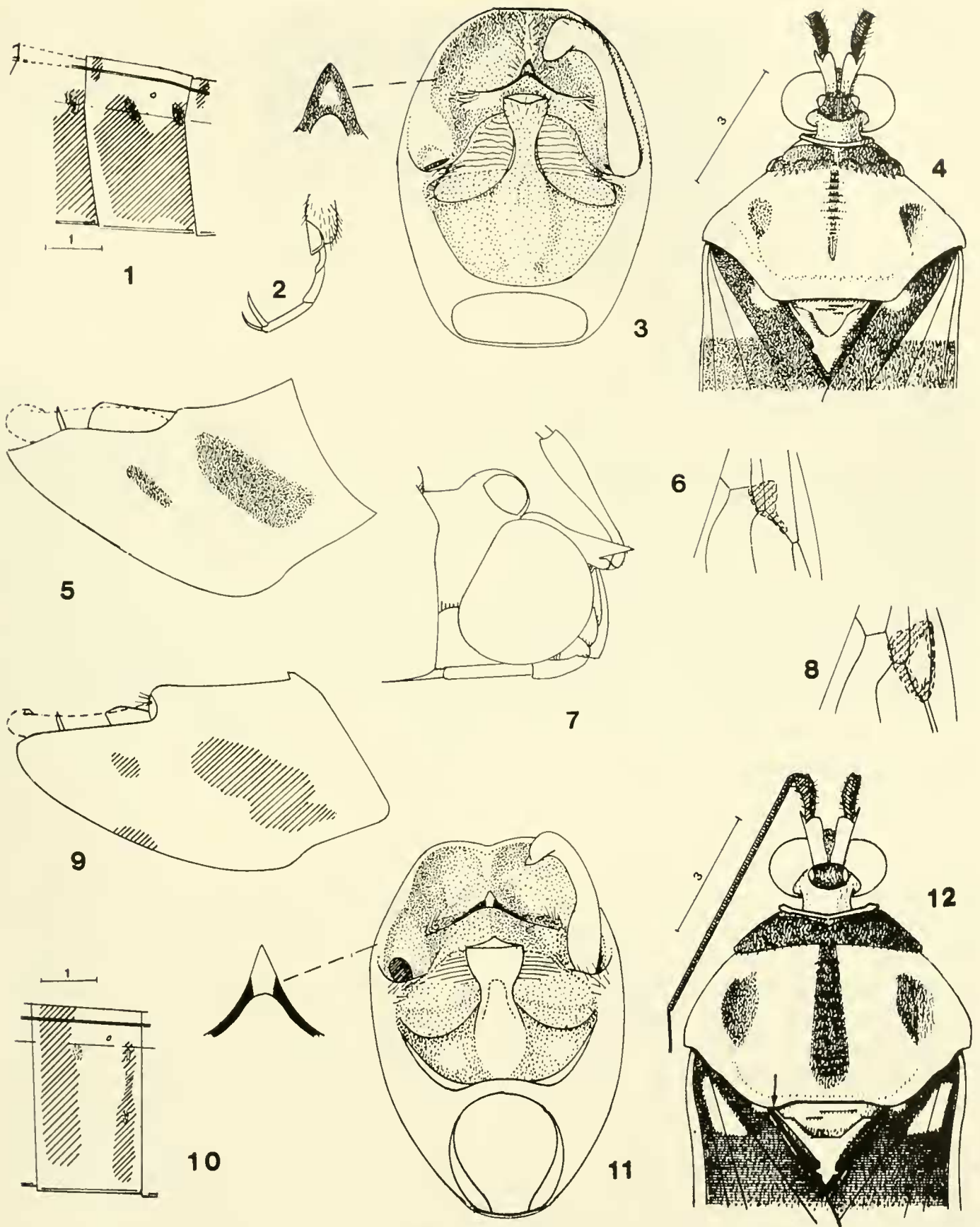
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The Sphaeridopinae are characterized by two unique characters, namely, the head mostly occupied by the very large eyes and the antennophores raised on the vertex, close together, between the eyes. The subfamily contains four genera with one species in each. A second species of *Sphaeridops* is described below.

The members of this subfamily have a few other unusual characters. On the anterior lobe of the pronotum there are sensory organs, of unknown function, as can be seen from SEM photos 13, 14 and 15. We have observed corresponding organs in the other two genera known to us. Another unusual character is the organization of the connexival margin. The dorsal and ventral components of the connexivum, are well separated by a vertical sclerite (Figs. 1, 10). The margin of the dorsal component is thickened and that of the sternal carinate. The suture separating the connexival segments from their corresponding sterna is obsolete, poorly defined. A somewhat similar condition is found in the triatomine *Dipetalogaster*, in which the urotergites are con-

nected to the connexivum by an expandable membrane. In the sphaeridopines the corresponding areas are sclerotized. The prosterna are strikingly different in each of the three genera that we know in the subfamily, as will be demonstrated in a future paper.

Figures 3 and 11 show, for the first time, the male genital capsule on dorsal view. The anatomical details of this surface present several characters that are, at least, of specific value. In the two species considered in this paper, a common pattern is evident and the differences between both species are numerous. We have compared these with the corresponding parts of other genera in other reduviid subfamilies. We call posterior upper surface the area from behind the apical border to the anal opening. It is membranous in the emesines and sclerotized in the sphaeridopines studied. The anal opening also serves as the exit for the phallus. The opening may be hidden or not by the procitiger as they may be close together or somewhat apart. The hypopygial caudal spine can be marginal or inside the surface. We call anterior upper surface the area from behind



Figs. 1-12. Figs. 1-6, *Sphaeridops amoenus* (L. & S.), male. 1, abdominal sterna, apodemal depressions spotted, lateral view. 2, spongy fossa and fore tarsus. 3, genital capsule, dorsal and detail of spine. 4, anterior half of body. 5, hypopygium, lateral. 6, spot at apical angle of corium (colors inverted). *Sphaeridops eulus* n. sp. Figs. 7-12, male holotype. 7, head, lateral. 8, spot at apical angle of corium (colors inverted). 9, hypopygium, lateral. 10, abdominal sterna, apodemal depressions spotted. 11, hypopygium, dorsal and detail of spine. 12, anterior half of body.

the anal opening to the base of the hypopygium. The proctiger is found here. In the emesines and sphaeridopines studied, the posterior surface is sclerotized. In both groups of species, where the two surfaces meet, a variety of spines, smooth surfaces, corrugations, depressions, pilosity (length, location, extension), etc., are found. In summary: the dorsal surface of the hypopygium, in the Reduviidae at least, seems to present good specific and generic characters. A systematic survey of the Reduviidae and other heteropterous families should be carried out to study the possible use of this surface as one more taxonomic tool.

SEM photos were made with an IDS-DS 130 microscope, in the Electron Microscope Laboratory, at the University of California at Berkeley. The holotype is deposited in the National Museum of Natural History, Washington, D.C., the paratype in the senior author's collection. Measurements are in mm.

#### DESCRIPTION

#### *Sphaeridops eulus*

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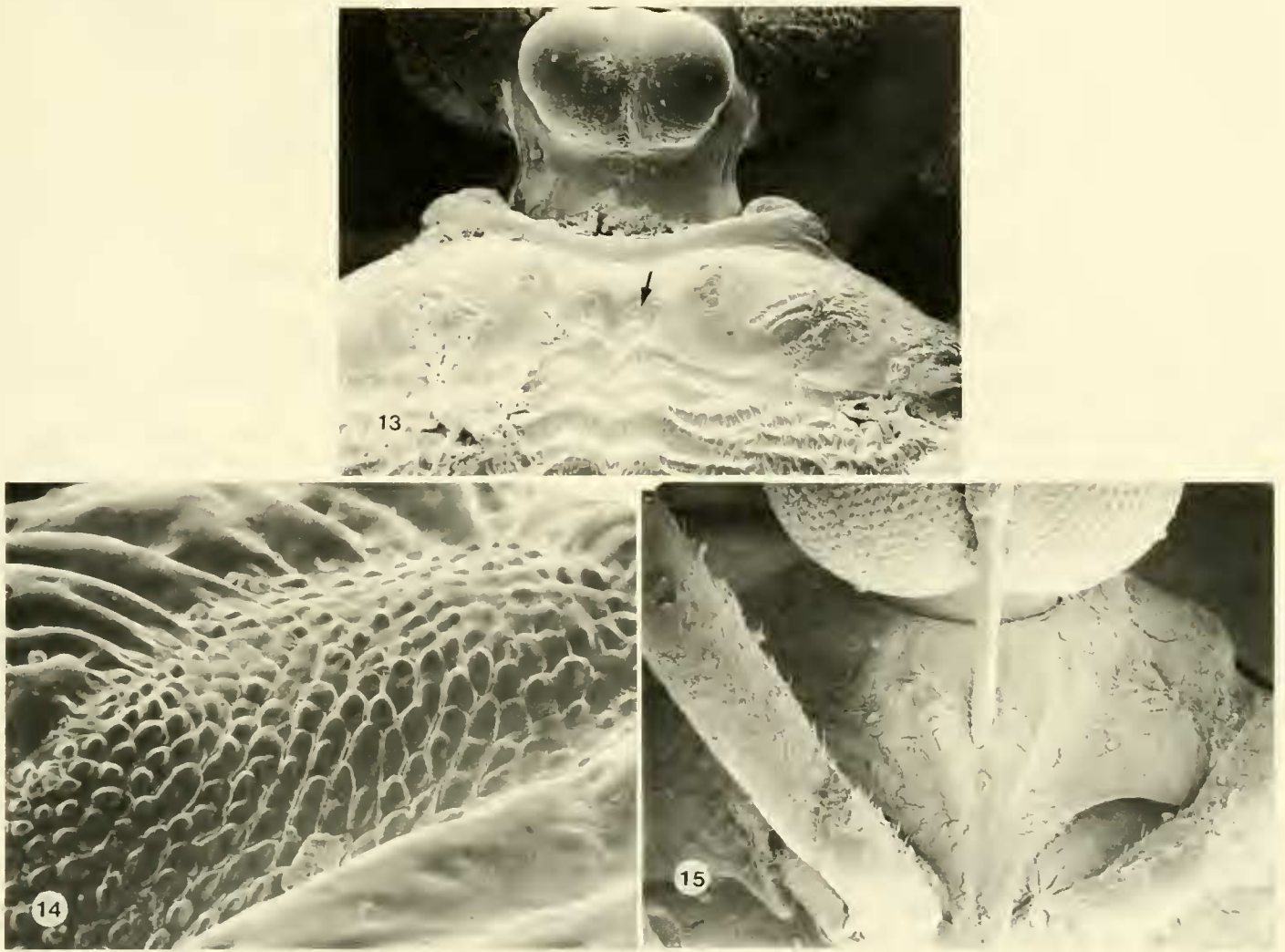
#### NEW SPECIES

Figs. 7-15

Male.—Red and black; two orange areas on each hemelytron. The following parts black: head, ocellar elevation, eyes, antennae, base of antennophores; anterior lobe of the pronotum, median line and two suboval spots on posterior lobe of the pronotum (Fig. 12), upper halves of pleurae, lateral margins of scutellum, legs, most of fore wings, center of orange spot at apex of corium, lateral thirds of mesosternum, anterior half of metasternum, caudal fourth of connexival segments, two transverse stripes on sterna, base of genital capsule and three oval spots on apical half (Fig. 9). First two rostral segments gray, last segment pale gray. Ocelli crystalline.

Head.—Length 1.87, width across eyes 2.50, interocular space before ocellar elevation 0.75, width of ocellar elevation 1.12,

ocelli apart at  $1.3 \times$  their width (0.47:0.36); width of eyes 0.87, length of eyes 1.25, eyes surpassing ventral level of head by  $\frac{2}{5}$  their height (0.62:1.62), eyes ventrally 0.25 apart; frons below antennophores 0.68 wide; neck 0.47. *Antennal segments*: I, 1.43; II, 6.37; III, 1.25; I, 0.68; I as in Fig. 12; II slender, straight, half as thick as I apically (0.18:0.37), III and IV filiform, half as thick as II; I semidecumbent setose, setae shorter than apical diameter of segment; II to IV with moderately abundant semivertical setae, subequal in length to diameter of II and slightly longer than diameter of III and IV. Antennophore spined on lateroapical margin (Fig. 12), surpassing anterior margin of head (Fig. 7). Neck cylindrical, narrowing to base. *Pronotum*: collar angularly concave, lateral angles slightly swollen; anterior lobe slightly elevated, shallowly sculptured into three main areas; median sulcus shallow, short; sensory organ present (arrow, SEM photo 13), median length 0.31, length below margins of collar 0.75; width 3.75; posterior lobe—length 4.37, width 7.25, scutellar lobes slightly developed (arrow, Fig. 12), posterior margin very shallowly concave, humeral angles sharp, unspined; surface irregularly corrugate, transversely corrugate along median black stripe and at humeral depressions. Pleurae vertically corrugate; osteole opening above on mesopleura, a simple conical depression, three canaliculi converging into it along its polished surface; the metapleura has what could be another stink gland opening: its surface is rough, has an oval, polished, slightly raised structure on its disc, and a slit-like opening above. Protibia with a small apical spongy fossa (as in Fig. 2 of *amoenus*). Fore wing with costal margin folded down at humeral angle, resting on a well developed pleural carina. Scutellum triangular, width 2.75, length 2.12; apical spine thick, on each side with a basal, small granule, slightly bent upward; disc depressed, with a few transverse corrugations. Prosternum as in SEM photo 15. Total length 22.20–22.50 mm.



Figs. 13–15. *Sphaeridops eulus* n. sp. 13, anterior lobe of pronotum, sensory organ, arrow. 14, sensory organ, detail. 15, prosternum.

**Holotype.**—Male, Horqueta, PARAGUAY, 57-10 W 23-24 N, collector unknown, in the National Museum of Natural History. **Paratype:** male, BRAZIL, Bahia, Encrusilhada, 960 m, Nov 1972, M. Alvarenga collector, in JMC collection.

**Etymology.**—The trivial name *eulus* (Gr. *eulus* = owl) refers to the two large, ocellate spots at apex of corium that remind one of a pair of owl's eyes.

This new species is closely related to the Brazilian *Sphaeridops amoenus* (Lepeletier and Serville, 1825), the type species. The longitudinal, median, corrugate, black stripe on the posterior lobe of the pronotum, narrow in *amoenus* and broad in *eulus*, the sculpturing of both stripes is different (Figs.

4, 12). The black ornamentation of their abdominal sterna is and the coloration of the humeral angle of the fore wings are different (Figs. 1, 10). They differ in many details of the dorsal genitalia (Figs. 3, 5, 9, 11). In the paratype, the lateral margin of the posterior lobe of the pronotum is slightly concave on the middle third instead of uniformly convex as in the holotype.

#### LITERATURE CITED

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